

# Nordea's rules governing the commitment exposure of financial instruments (Valid as of December 2011)

## Nordea's measurement principles for financial instruments

Nordea's calculation of exposure from financial instrument's exposure illustrates Nordea's evaluation of the risk relating to the instruments. The exposure contains the actual market value that is the value of the instrument today plus an estimation of the potential future development in the market value.

The development in the market value of a financial instrument is dependent upon factors as FX rates and interest rates. The uncertainty concerning the estimation of the future market value of a financial instrument increases in line with the remaining time to maturity and price fluctuations of the underlying assets, and the remaining time to maturity of the instrument. Consequently the future development in the market value and the exposure may change considerably during the time to maturity of the instrument. Therefore it is only possible to give an estimation of the future development in the market value, and the exposure may change considerably during the remaining lifetime of the instrument.

## Limits

In connection with trading in financial instruments Nordea establishes a limit. The limit indicates the agreed maximum exposure that the client can assume in respect of the instruments traded under the limit.

Nordea uses two different types of limits: One for exchange-traded instruments and one for OTC instruments.

Exchange-traded instruments are standardised financial instruments listed and traded on a recognised exchange.

OTC instruments are non-standardised financial instruments agreed between the client and Nordea.

## Exposure on exchange-traded instruments

Exchange-traded instruments require margin payments and ongoing settlement of gains and losses. As regards exchange-traded instruments, only the relevant exchange's margin requirements constitute a risk in respect of the limit.

## Exposure on OTC instruments

The exposure on an OTC instrument is calculated as:

$$\text{Exposure} = \text{Market Value} + \text{Potential Exposure}$$

The Potential Exposure stipulates the potential future market value. The exposure can never be less than zero.

The Potential Exposure for a given OTC instrument can be calculated according to two methods depending upon the underlying asset.

The first method is a simulation method. The instrument's future market value is driven by the development of the underlying assets future values and these are simulated in a calculation model. The simulation produces a number of scenarios of each asset's future value. In each scenario the future market value of the instrument is calculated. Based upon these, the Potential Exposure is estimated as a value which ensures that the actual future market value with high probability will stay within or below this value.

For a portfolio of contracts under a master agreement (Nordea Master or ISDA), where the market values from the individual contracts are netted in case one of the parties defaults (hereafter portfolio), the Potential Exposure is calculated as the simulated market value of the whole portfolio, as all the underlying assets are simulated at the same time. In the portfolio simulation netting of market values, fully or partly setoff between opposite contracts and correlation between the various risk parameters are considered. This means that the exposure on portfolio level typically will be less than the exposure from a simple sum of the exposure from each of the contracts in the portfolio.

Initially the Potential Exposure for FX and Interest Rate related products will be simulated, but Nordea intends to include more instruments in the simulation during the next years.

In the second method the Potential Exposure is calculated by multiplying the principal of the individual contract with an add-on factor:

$$\text{Potential Exposure} = \text{Contract principal} * \text{add-on}$$

The add-ons are updated continuously and reflect the latest three years' fluctuation in the price of the underlying asset.

The actual add-ons will be handed out by the bank on request.

## Estimation of the exposure

As part of the exposure may derive from a simulation of the potential market values, it can be difficult to estimate the exposure manually. The bank can inform about the actual exposure for each client on request.